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| 09/316,515      | 05/21/1999  | DAVID B. KRIG        | 279.112US1          | 7896             |

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EXAMINER

EVANISKO, GEORGE ROBERT

ART UNIT

PAPER NUMBER

3762

DATE MAILED: 08/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/316,515

Applicant(s)

KRIG ET AL.

Examiner

George R Evanisko

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-91 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-91 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Specification*

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification does not provide antecedent basis for computing “recursively” the first indicated pacing interval.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

(f) he did not himself invent the subject matter sought to be patented.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-91 are rejected under 35 U.S.C. 102(f) because the applicant did not invent the claimed subject matter. The application contains different inventors than the patent to Kramer et al (6285907), but the application’s claims are disclosed in Kramer et al.

Claims 1-3, 26, 27, 58, 59, 63, 88, 89, and 91 rejected under 35 U.S.C. 102(e) as being anticipated by Hill (5814085).

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Hill states in column 2 that sensed and paced ventricular depolarizations can be used to define the cycle length. In addition, although Hill uses an average in his computation, he still computes the new pacing interval based on the most recent interval length and is therefore recursive (it is noted that applicants computations are also based on an average, see claim 69).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 23-25, 64, and 67-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill.

Hill discloses the claimed invention except for the sensor, register, and basing the pacing therapy on a second pacing interval based on the sensor (claims 23 and 64 ), basing the pacing therapy on the shorter of the two intervals (claim 24), providing a bounded range for the intervals (claim 25), and the filter including an IIR, FIR, and weighted averager (claims 67, 68, and 70). It

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would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the implantable pacing device as taught by Hill with the sensor, register, and basing the pacing therapy on a second pacing interval based on the sensor, basing the pacing therapy on the shorter of the two intervals, and providing a bounded range for the intervals since it was known in the art that pacemakers include sensors, registers, and base the pacing therapy on a second pacing interval based on the sensors, base the pacing therapy on the shorter of the two intervals, and provide a bounded range for the intervals to provide the pacer with other indicators of physiological demand so the pacer can control the pacing rate with a combination of the other indicators and limit the pacing rate to selected rates.

In addition, it would have been an obvious matter of design choice to one skilled in the art, to use an IIR, FIR, or weighted averager for the filter, since applicant has not disclosed that the IIR, FIR, or weighted averager provides any criticality and/or unexpected results and it appears that the invention would perform equally well with any filter, such as the processor providing desired signal processing, such as averaging, as taught by Hill to determine if the pacing rate should be changed.

### ***Response to Arguments***

Applicant's arguments filed 6/11/02 have been fully considered but they are not persuasive. The applicant has defined in the arguments what is meant by computing "recursively" the first indicated pacing interval and therefore the 112 first paragraph rejections have been withdrawn. "Recursive" has been objected to, though, since the specification does not provide antecedent basis for "recursive". The 102/103 rejection in view of Hill has been changed to only the previously applied 102 rejection since the applicant has defined "recursive",

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since Hill does perform a recursive computation, and since the reason it is recursive is because its just a repeat of the previously claimed limitation of using the most recent V-V interval duration and a stored previously computed value of the interval

The 102(f) rejection still stands since the Kramer et al patent discloses the applicants claimed subject matter and since the patent to Kramer has a different inventive entity than the application. In addition, the Kramer et al patent does claim the same subject matter as in the applicant's claims, as shown by the previous double patenting rejection (and applicant's filing of a terminal disclaimer).

The argument that Hill does not teach "recursively computing a first indicated pacing interval, or a most recent V-V interval (regardless of whether the most recent V-V interval is concluded by a paced or sensed beat) using not only a most recent V-V interval duration, but a stored value of the first indicated pacing interval that was previously computed" is not persuasive. Hill teaches in columns 4-6 the use of computing dT after a sensed beat. Hill teaches in column 7, lines 2-16, the computing of dT after a paced beat. Hill teaches in columns 4-7, for figures 3 and 4, the use of the most recent V-V interval in the dT equation by using CLnew. Finally, Hill recursively computes the first indicated pacing interval since he uses the previous value of the first indicated pacing interval plus dT. (These arguments were previously given in paper number 12).

Finally, the examiner has provided several references showing the claimed use of multiple sensors, registers, and bounded limits for the interval for the 103 rejection.

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*Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R Evanisko whose telephone number is 703 308-2612. The examiner can normally be reached on M-F 6:30-5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on 703 308-5181. The fax phone numbers for the organization where this application or proceeding is assigned are 703 306-4520 for regular communications and 703 306-4520 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-1148.

  
George R Evanisko  
Primary Examiner  
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8/2/02

GRE  
August 2, 2002